CMPT481 Project Report

Peggy Anderson
peggy.anderson@usask.ca

Chris Penner
clp848@mail.usask.ca

Jonathan Baxter
jab231@mail.usask.ca

PROBLEM AND MOTIVATION

In 1980, the ratio for debt-to-income in Canada is 661 At a young age Canadians are taught how to count and spend money but we are not all taught how to budget effectively. Whether you are a businessowner, student, or bringing home the bacon for your family; it is important to budget. Budgeting allows a person to determine if they will have enough money for what they need to do and what they would like to do. The reason people might fall in to debt is the fact that they are spending more than they expected. If a person was to set aside a predetermined amount of money that they wish to spend each week or month and could better visualize their spending habits in relation to their saving. This will allow them to better prioritize their budget and find areas to increase savings.

It can be easy to forget to add expenses as they occur throughout the day. Reasons for this may include that the method of inputting their expenses is too time-consuming or difficult to use; or that their budgeting application is not available on their mobile device. Many of the current applications that are purposed towards tracking weekly or monthly recreational budgets (non re-occurring bills and expenses) are not easy to use or engaging for the user. Most visualization techniques present in other applications focus solely on the amount of money spent in each category, however this overlooks the primary purpose of budgeting and does not deliver the information of how the amount spent relates to the users savings goals. Many applications sacrifice ease-of-use by adding clutter for additional (often unused) features. When navigating many of these applications it can seem that there is too much going on. Accessibility of the application can also be an issue, disparity in interface between the Desktop and mobile versions can be a confusing experience. Some applications are not available on all devices.

RELATED LITERATURE AND BACKGROUND

DESCRIPTION OF THE SYSTEM

Initial Prototype

The intention was to build an application that was as easy to use as possible, users should be able to jump right into the tasks without prior training and be able to complete them confidently and successfully. The easiest way to accomplish this was to minify the scope of the application to its simplest possible subset. Minimizing the number of actions available simplifies the interface and allows the user to navigate confidently.

In the initial "Wizard of Oz" style paper prototype the interface was pared down to only 3 screens, one for each of the tasks users are allowed to perform:

- Add an expense
- View expenses
- Customize budget allowances

As with any design process it was quickly discovered during trials that it was unclear how to perform certain actions; for instance there was no functionality for cancelling or removing an expense. Each hiccup was noted and changes were prioritized for the next prototyping stage.

Adjustments

The next prototype was constructed as a fully interactive and functional web application using javascript, html and css. This allowed us to implement the functionality which was missing from our paper prototypes such as animations, calculations, and the use of real data.

A critical analysys was performed on the data collected from the paper-prototype trials. This inspired a focus on displaying the information available as clearly as possible. Naturally the implementation met some obstacles and decisions were made to cut or work around some features. Features which were cut or altered include:

- Saving data across sessions
- Cancelling expenses
- Viewing individual expenses
- Cancel buttons/back buttons
- Adding additional expense categories

We determined that many of these features were "nice to have" however were not crucial for the testing stage of this level of prototype. These concerns are addressed again in the retrospective portion of the report.

Overall the choice of web technologies suited the implementation well; particularly the ability to use the same prototype on mobile and desktop. A familiarity with React and Redux allowed quick bug-free edits when concerns regarding functionality or layout were raised.

The use of Redux specifically simplified the problem of syncing data across the application trivial. These choices were made within a forward thinking context, if the application were to move forward to large scale deployment the code may progress towards that goal.

One of the greatest difficulties faced was that of creating a responsive layout that allowed code re-use across Mobile and Desktop devices. The preference was for the interfaces to be similar enough to allow habits formed on one device to

Retrospective

EVALUATION AND USER REPORTS

Goals, Approach and Rational for the Evaluation

Goals

The primary goal of our project is for users to use our application to continuously track their expenses. It is our belief that if the application is made easy to use through an intuitive interface and navigation then the user will also be able to input expenses quickly and efficiently. If the user can quickly tell us how much they have spent in a specific category after expenses have been entered then it confirms that the application is presenting a clear visualization of the data. Unfortunately the continued use of the application can not be tested within the scope of this class since that would require multiple interviews with the test users to evaluate their usage and a high-fidelity prototype.

Approach and Rational for the Evaluation

We will use interviews to evaluate our goals. Seeking to determine what they require to make their budgeting experience with our app the most enjoyable.

Actual Participant Pool and Other Execution Details

We had used a mixture of family/friends for our test cases.

User 1 An individual who has limited experience with computers.

User 2 An individual who has a degree in computer science and may offer some valuable criticisms.

User 3 Older demographic who may have budgeted using other methods in the past.

User 4 A business student who has studied budgeting.

Divergence from Milestone III Evaluation Plan

Put stuff here.

Results

Also put stuff here.

Conclusion

And more stuff here.

CONCLUSION